

# R5501-30 Remote Airborne Particle Counter

## 0.1 CFM (2.83 LPM)

- Industry's highest concentration of 15,000,000 particles/ft<sup>3</sup> @ 10% coincidence loss
- Ideal for use in research, industrial health and safety, indoor air quality, and cleanroom applications
- The most comprehensive internal self-diagnostics of any handheld particle counter
- Remote diagnostics allow for remote service investigation through the Internet
- Supports MODBUS TCP, RTU and ASCII communication over Ethernet, or (optional) RS-485/RS-232
- Internet of Things (IoT) communication allows for network or cloud-based data options



The Airy Technology® R5501-30 Remote Particle Counter measures 0.5 to 75.0  $\mu\text{m}$  and are the most feature advanced remote particle counters available.

Integration is easy into a building automation and cleanroom management system via Ethernet, or (optional) Wireless 802.11 b/g, RS485 or RS232. Integrated web server displays instrument screen through any browser.

The R5501-30 remote particle counter displays and reports 6 user-selectable particle size channels, as well as (optional) temperature and humidity, flow and sensor status, date of last calibration, serial number, laser on-time, and date of manufacture for easy maintenance and warranty management. Storing up to 45,000 time-stamped particle count and environmental data records provides data redundancy on every instrument. Airy Technology® counters can be monitored remotely via web browser, or controlled and monitored using IMS Software.

All Airy Technology® counters meet ISO 21501-4 and JIS B9921. The R5501-30 ensures compliance with an on-board pulse height analyzer.

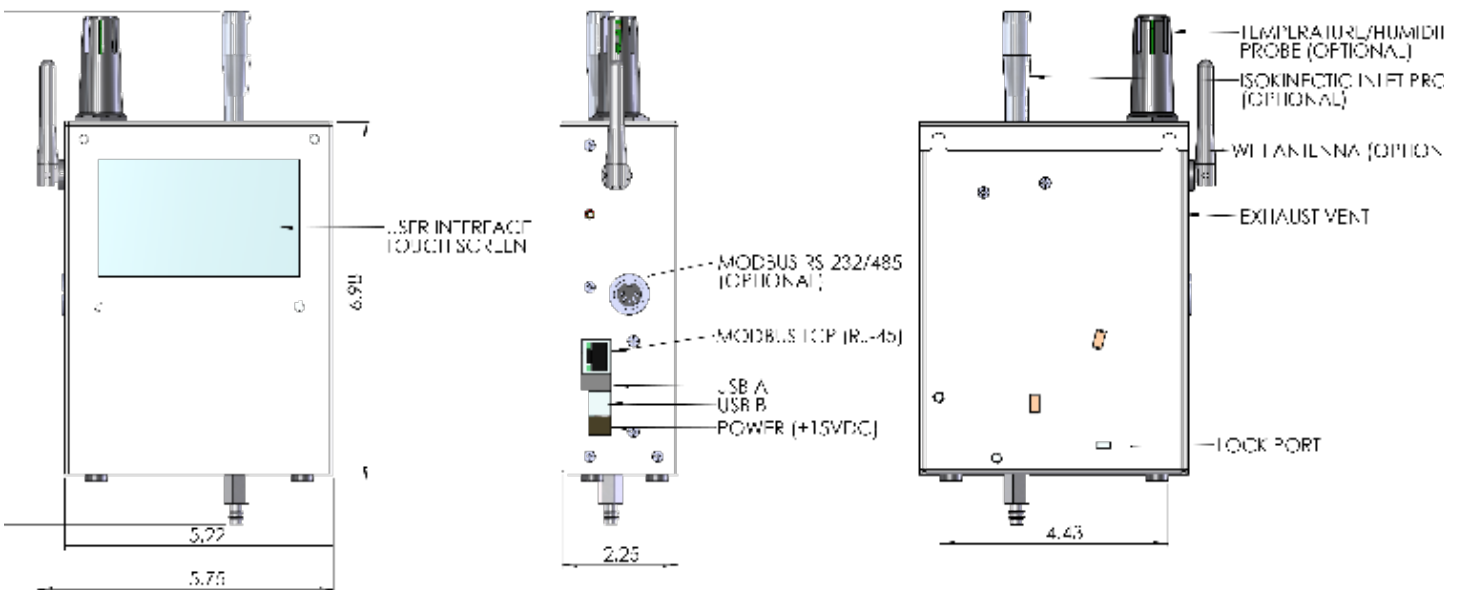
### Features and Benefits

- Measures 0.5  $\mu\text{m}$  to 75.0  $\mu\text{m}$
- 0.1 CFM (2.83 LPM) flow rate
- Long life laser diode technology
- Measures up to 6 channels of simultaneous data
- Approximates mass concentration in  $\mu\text{g}/\text{m}^3$  with density and refractive index corrections
- Large easy-to-use icon driven color touch screen display
- (Optional) Temperature and relative humidity probe
- Stores up to 45,000 sample records, 1,000 sample locations, and 50 recipes
- Annotation function allows user to save 32 character notations to a sample record
- Remote diagnostics allows for remote service investigation through the Internet
- Easy configuration and transferable from instrument to instrument
- Static or dynamic IP address (DHCP)
- Connect using Ethernet, USB or (optional) Wireless 802.11 b/g, RS 485, or RS232
- Versatile mounting options
- Internal audible alarm with comprehensive alarm management
- User-selectable channel sizes
- Complies with ISO 21501-4 and JIS B9921 standards
- Easy to clean and wipe down with minimal particle traps
- Seamless integration into a facility monitoring system
- Lightweight stainless steel enclosure
- 2 year limited warranty. Extended warranties available.

# Specifications

<b>Model</b>	<b>R5501-30</b>
Size Range	0.5 to 75 µm
Size Channels	Factory calibrated at 0.5, 1.0, 2.5, 5.0, 10.0, 30.0 µm variable binning
Flow rates	0.1 CFM (2.83 LPM)
Concentration Limits	15,000,000 particles/ft <sup>3</sup> @ 10% coincidence (per ISO 21501-4), 30,000,000 particles/ft <sup>3</sup> @ 10% coincidence (as tested and validated <sup>1</sup> )
Battery Run Time	>10 hours continuous operation
Light Source	Long life laser diode
Counting Efficiency	50% @ 0.5 µm; 100% for particles >0.75 µm per JIS
Zero Count	<1 count / 60 minutes (<1 particles / 6 ft <sup>3</sup> ). No fault count subtraction.
Count Modes	Real-Time Meter and graph, cumulative/differential count/m <sup>3</sup> and count/ft <sup>3</sup> , and mass concentration (PM)
Count Alarms	1 to 9,999,999 counts
Calibration	NIST traceable
Display	4.3" (10.9 cm) WQVGA (480×272) color touch screen
Printer	(Optional) External thermal printer available
Vacuum Source	External vacuum >15" (38.1 cm) of Hg
Airflow	Internally monitored
Filtered Exhaust	Internal HEPA filter
Number of Channels	6
Custom Size Channels	Calibration for custom size channels available
Audible Alarm	Adjustable built-in alarm
Reports	ISO 14644-1, EU GMP Annex 1, FS 209E
Communication Modes	Ethernet and USB. (Optional) Wireless 802.11 b/g, RS485 or RS232
Environmental Sensor	(Optional) Temperature 32° to 122°F (0° to 50°C) ±1°F (0.5°C) and relative humidity probe 15-90% ±2%
Alarm	Alarms on counts for all particle sizes, sensor failure, environmental sensors and flow
Standards	ISO 21501-4 and JIS B9921
Instrument Calibration	Recommended minimum once per year
External Surface	Stainless steel
Dimensions (L x W x H)	5.22" x 3.81" x 8.9" (14.0 cm x 9.7 cm x 22.6 cm) includes barb fittings
Weight	2.6 lb (1.18 kg)
Accessories	Operating manual on USB flash drive, isokinetic probe, temperature relative humidity sensor, filter, battery, data download software, USB cable, power supply and cable
Optional Accessories	Printed manual, spare battery, external battery charger, external printer and isokinetic probes
Buffer Memory	45,000 sample records (rotating buffer) including particle count data, environmental data, locations, annotations, and times. Scrollable on screen or printout times. Scrollable on screen or printout
Sample Locations	Up to 1,000 locations 20 characters long
Sample Time	1 second to 99 hours
Power	110 to 240 VAC 50/60 Hz universal in-line power supply
Operating Conditions	41° to 104°F (5° to 40°C) / 20% to 95% non-condensing
Storage Conditions	32° to 122°F (0° to 50°C) / Up to 98% non-condensing
Warranty	2 year limited warranty. Extended warranties available.

1- Validated by independent analysis see paper available at [www.particlesplus.com/aac2022\\_paper](http://www.particlesplus.com/aac2022_paper)



Airy Technology, Inc. reserves the right to change specifications without notice. Contact [www.airytechnology.com](http://www.airytechnology.com) or your local distributor for more details. Airy Technology and the Airy Technology logo are trademarks of Airy Technology, Inc. ©2024 Airy Technology, Inc. All rights reserved.

REV 20240822-R5501-30



31 Tosca Drive  
Stoughton, MA 02072 U.S.A.  
+1-781-341-6898  
[www.airytechnology.com](http://www.airytechnology.com)